Mohican School
IN THE OUT-OF-DOORS, INC
RESIDENT OUTDOOR ENVIRONMENTAL EDUCATION SINCE 1961

5370 Bunker Hill Road North
Butler OH 44822
Phone 419.938.6671
Fax 419.938.6051
www.mohicanoutdoorschool.org
info@mohicanoutdoorschool.org

December 15, 2010

Commissions Secretary, Office of the Secretary
Federal Communications Commission
415 12th Street
Room TW-A325
Washington, DC 20554

Re: WC Docket No. 10-222

To Whom It May Concern,

Please find attached the proposal response for the E-Rate EDU2011 Pilot Program referenced WC-Docket No. 10-222. On behalf of the Mohican Outdoor School, we wish to thank you for the opportunity to make application for these funds to implement the Green Technology Mobile Learning Program or GT Mobile for short. We are excited to hear the response regarding the awards and look forward to working with the commission in all future activities.

For additional information, please contact me directly at 41-938-6671 or via email at ray_coleman@mohicanoutdoorschool.org.

Sincerely yours,

Ray F. Coleman, Executive Director

SECTION 1 –GREEN TECH MOBILE (GT-Mobile)
E-RATE EDU2011 PILOT PROGRAM
WC-DOCKET NO. 10-222

1. Full Description of the Mohican Outdoor School's Green Tech Mobile Learning Program (GT Mobile).

a) The Mohican Outdoor School (MOS), a premier outdoor environmental education school located in rural, North Central Ohio, was awarded an Ohio Environmental Education Fund grant by the Ohio Environmental Protection Agency on November 16, 2010. This program is currently in the design and implementation phase. A copy of the Ohio EPA press release is included in the attachment section of this proposal. This grant known as the "Natural Cache" program will incorporate the sport of geo-caching and the use of mobile learning in the outdoors. Cache points will host learning activities designed to reinforce thematic environmental science units commonly taught in the classroom. MOS proposes using funds available through the E-Rate EDU2011 Pilot Program to expand and strengthen environmental mobile learning via the implementation of the Green Tech Mobile learning program or "GT Mobile" for short. GT Mobile will expand on the current partnership between the Mohican Outdoor School, Sprint/ Nextel, and Go Know learning. Go Know provides a learning software platform which will enable GT Mobile to deliver and manage computer based instruction to students using handheld devices in the field. Instead of reading about the parts of the flower, students will take pictures of the parts and transmit them via the Sprint 3G/4G Wireless Network. The possibilities to make realistic connections in the field to academic principles taught in the classroom are endless. Lessons such as water and soil sampling and analysis, plant and animal identification, the water cycle, the food chain, erosion, principles of energy, etc will all come to life in this natural world of learning supported by electronic connection to infinite resources available via the internet. Students will be able to record and send data via the internet utilizing a variety of media technologies. Mastery of content will be documented utilizing pre and post test measurements delivered in the field via the use of a handheld computer. MOS is excited that finally there exists a means to connect technology and nature outside of the traditional school building and school day.

b) The Natural Cache program was just funded in November 2010 and funds were not sufficient to roll out a complete mobile learning pilot. In total $23,086 was received by MOS for the Natural Cache program. Ohio EPA does not allow for any of these funds to pay for internet connection. This is an ideal time to combine resources provided by the Ohio EPA, which can pay for teacher training, lesson design, and equipment with funds available for internet connection under E-Rate EDU2011. By utilizing these dollars to support and expand mobile learning, MOS will create a comprehensive, cutting edge, pilot program that combines access to online resources with experiential based lessons delivered to students directly in the outdoor

environment. MOS is proposing the use of two varieties of mobile devices. Thirty –five (35) Dell Netbook Computers will be deployed as well as fifteen (15) Sprint Pro 2 Handheld Smart phone/computers. These units will be used by separate groups of students. A secondary gain of this pilot will compare the outcome results of those utilizing the notebooks verses those utilizing the Pro 2 devices to see if cell phone delivery has a stronger impact over netbook delivery.

c) The Mohican Outdoor School is located in a very rural location. At present no DSL or cable broadband access is available. Most internet connection in the area has historically been accomplished via dial up service or satellite connection, both of which lack in speed and effectiveness. Recently, the addition of a Sprint telecommunications tower has offered an additional solution via the Sprint 3G/4G wireless network. This pilot program will promote internet access and use in a location that is typically ten years "behind the times" of other more suburban communities. As Mohican presently serves students from all areas of Ohio, GT Mobile will also provide opportunities for urban kids to make realistic connections to nature, many of whom do not even know the origin of the meat in their supermarkets.

d) Training costs will be covered under the Ohio EPA grant resources. Teachers will be trained on: the Go Know platform (by Go Know- Chuck Canfield), the use of wireless devices (by Sprint-Walid Bouharb and on the internet protection software and process (in-house by MOS administration and representative from SOTI, the filtering software to be utilized).

e) As mentioned, the Mohican Outdoor School received a grant by the Ohio EPA OEEF program, and works in partnership with several community agencies such as Richland County Children Services, Connections Mentoring of Richland County, and Community Action for Capable Youth (CACY). Additionally, Mohican Outdoor School is a registered 501 (c) 3 nonprofit, education organization.

2. **Poverty level based on the percentage of students eligible for a free or reduced price lunch under the national school lunch program (NSLP) and the current discount rate of the school or library.**

   a) The poverty level of MOS based on NSLP free and reduced price lunch is 20.563%

   b) The current discount rate for MOS (IRN # 00113712) is 60%.

3. **Financial Hardships**

   a) Mohican Outdoor School is a self-funded, public, non-profit program that depends on donation and public philanthropy. The recent economy has negatively impacted the amount of donor support pledged to Mohican Outdoor School.

b) Mohican Outdoor School is located in a very rural location and internet access is limited and can be costly for quality connection. As a result internet access rates in the community are presumed to be much lower than areas with more options for internet connection.

4. **Costs associated with implementing the GT Mobile program, including but not limited to costs for equipment such as e-readers or laptops, access and connection charges, teacher training, librarian training, or student/parent training.**

    a) Costs associated with implementing the GT Mobile Program include:

        i. Eligible E-rate connection and access charges of $50 per unit per month or $2,500 per month ($30,000 per year; 50 units @ $50.00 per month times12 months= $30,000)

        ii. Non-eligible E-rate costs for equipment at $50 per unit or $2,500 in total (50 units @ $50.00 per unit=$2,500)

        iii. Training costs for teachers/ parents ($2,500 per year).

5. **Committed school resources available to implement GT Mobile, including whether those funds are from the school's general budget or from an outside funding source.**

    a) Committed school resources to support GT Mobile include:
        i. Stipends to cover substitute teachers during training
            $500.00
        ii. Part-time coordinator for mobile learning program
            $4,000.00
        iii. Tech training for teachers/ parents
            $2,500.00
        iv. 50 handheld devices (35 netbooks, 15 Pro 2's)
            $2,500
        v. Website development costs
            $2,000
        vi. Total revenue from other source (Ohio EPA grant)
            $11,500
        vii. Total Revenue Requested under EDU2011 Pilot Program
            $30,000

6. **Effect EDU2011 support for off-premise connectivity is likely to have upon Mohican Outdoor School**

a) The No Child Left Inside Act of 2009 (NCLI) has been introduced to combat the narrowing effects of No Child Left Behind. If passed, NCLI amends the Elementary and Secondary Education Act of 1965 to require states, as a prerequisite to receiving implementation grants, to develop environmental literacy plans, approved by the Secretary of Education, for pre-kindergarten through grade 12, that include environmental education standards and teacher training. The GT Mobile project will provide a template for school systems to engage in mobile learning that connects online learning resources with field exploration via wireless technologies. These resources will provide opportunities to all formal school systems to link up with stand alone non-formal outdoor schools like MOS, to strengthen opportunities for practical application of existing academic theory. Additionally, GT Mobile will make available a means for all students, regardless of disability, to enter the natural world. Students will engage with nature physically, if able, or virtually, if restricted in mobility, by the use of media technology. MOS anticipates that GT Mobile will increase conservation awareness, improve environmental stewardship, and give real life meaning to concepts studied in school. Additionally, GT Mobile will develop increased awareness in careers associated with emerging green technologies by exposing students to topics relating to solar, wind, and geothermal production. Off premise connectivity will allow for increased learning opportunities during after school hours as well as in the summer thus expanding the opportunity to learn to a year round model not restricted to four walls. Some very clear benefits of environmental education for our young people have been identified:

i. Environmental education has a measurably positive impact on student achievement in science, reading, math and social studies as well as increased motivation, critical thinking and interest in science and math as future career pathways.

ii. Environmental education "in the field" as part of the regular school curriculum gets kids outside contributing to healthy lifestyles through outdoor recreation, exercise, play and experience in the natural world that is critical to helping prevent obesity and address other related health problems.

iii. Environmental education provides critical tools for a 21st Century workforce by providing students with the skills required to understand complex environmental issues. By doing so students will develop skills to make informed decisions in their own lives and find solutions for real world

challenges facing our nation. Business leaders increasingly believe that an environmentally literate workforce is critical to their long-term success. Environmental education helps prepare students for real world challenges.

iv. Hands-on environmental education is a solution to the growing trend of "nature deficit disorder" exemplified by the fact that today's children spend half as much time outside as kids did just 20 years ago and, on average, spend six and a half hours every day plugged into electronic media.

7. **Analysis of the cost-effectiveness of the planned Applicant Wireless Program as compared to the use of other types of technology that would also meet the Program's objectives**

   a) As indicated earlier in this proposal, no other viable, cost effective means of internet connection exists in the rural geographic location of the school. Price estimates to install DSL connection or cable connection would require physical installation of cable for several miles costing several hundreds of thousands of dollars. No other wireless signals are available with the exception of a very weak and unreliable Verizon signal. The selected Sprint Technology is the most cost effective and really the **only** viable platform to implement a mobile learning program at MOS. The handheld devices cost the same whether selecting a Netbook or Pro 2 Phone method of delivery.

8. **Relevant technology planning documents and, if applicable, a statement of long-term objectives for the Program**
   a) Mohican Outdoor School's Technology Plan has been approved through 2013 and can be found in the attachment section of this proposal.

   b) Long term objective for this proposal include the following:

      i. Long term goals and objectives are detailed in the Goals Section of the MOS Technology Plan. In summary they include:
         1. Improved Internet Access
         2. Enhanced Student Learning
         3. Improved Teaching
         4. Organizational Efficiency
         5. Community Development

      ii. Goals specific to GT Mobile include:
         1. By June 30, 2012, at least 25 teachers will receive training on how to incorporate mobile learning technology into student lessons designed to be taught

in the outdoors resulting in a 20% increase in the delivery of lessons via handheld computers to students in the field.

2. By June 30, 2012, at least 750 students in grades 5 and 6 will complete experiential thematic lessons on environmental science delivered with the assistance of mobile learning technology.

3. By June 30, 2012, students completing GT Mobile lessons will demonstrate a 20% increase in pre-test/ post-test scores.

4. By June 30, 2012, at least 3 months of water sampling data will be recorded via the use of portable wireless student devices.

5. By June 30, 2012, a minimum of 75 lessons will be delivered via a mobile learning platform such as Go Know.

9. Children's Internet Protection Act and measures to protect against waste, fraud, and abuse

a) Mohican Outdoor School utilizes a firewall device that filters and blocks content utilizing Untangle software. All wireless devices will connect through the network and will be filtered using the school's current filtering system. Additionally, MOS will utilize SOTI software installed on the actual handheld devices to increase security measures as well as track devices. A full description of the SOTI product is included in the attachment section of this proposal.

10. Acceptable Use Policy

a) Students, Teachers, and Staff sign an Acceptable Use Policy annually. Additionally, upon each log in to the system an electronic prompt verifies that the user has read the Acceptable Use Policy and agrees to the terms of such policy. It is made clear that the Acceptable Use Policy is attached to the device and is enforced regardless of the location from which the device is used. A no Tolerance policy is in place for inappropriate use of the Internet.

SECTION 2 –GREEN TECH MOBILE (GT-Mobile)
E-RATE EDU2011 PILOT PROGRAM
WC-DOCKET NO. 10-222

Required Information (schools only).

1. **Location of School**
   a) The Mohican Outdoor School is located in Richland County at: 5370 Bunker Hill North Road, Butler, OH 44822.

2. **Name of the school applicant, and billed entity number**
   a) The registered name of the school is: **Mohican School in the Out-of Doors, Inc.**

   b) The billed entity number is: **16055572**

3. **Description of the school district or school, including the type of school, such as private, public, charter, or other special type of school**
   a) Specialty School: Mohican Outdoor School, Inc. is an outdoor environmental school organization located in rural Richland County near Butler, Ohio. Mohican School's program enriches all phases of the elementary and middle school curriculum, meeting content standards in all areas. The Mohican Outdoor School experience is interdisciplinary with an emphasis on hands-on, experience-centered learning. While serving many grade levels, fifth and sixth grade makes up most of the student body in the resident program. Programs are offered in day trip experiences, and resident experiences. The school operates from September through June each year. Over 200,000 students have participated since 1961, when the school was founded.

4. **Description of the Program's curriculum objectives, the grade levels included, and the number of students and teachers involved and/or being served as part of the program**
   a) The primary focus of the Mohican Outdoor School is to teach sustainable living by fostering a respect for nature which results in embracing conservation practices. There is strong emphasis placed on water conservation and water quality and how our personal choices affect the water resource. All class work has been aligned with the Ohio Department of Education Academic Standards for Learning. GT Mobile will focus on students in grades 5 and 6. GT Mobile projects 750 students and 25 teachers will be served in this pilot program. MOS staff members are facilitators for the following science based curriculums: Project WILD and Aquatic WILD, Project Learning Tree, Flying Wild, Wonders of Wetlands, and Healthy Water, Healthy People. In addition to curriculum used

by MOS, the facilities have also been designed to promote conservation and environmental stewardship. The campus, built more than a decade ago, before green building became a business and cultural buzzword, consists of three sustainably designed buildings that serve not only as work, living and classroom spaces but as teaching tools as well. The school models 25 different green features. In fact, Mohican School was the first public facility with overnight guests in the state of Ohio to use composting toilets as their primary waste management system. This decision now saves over 200,000 gallons of water each 30-week season of the facility's operations.

5. **Summary of any data collected by the school on Program outcomes and achievement of Program objectives.**

a) While the MOS Mobile learning program is just getting underway, Mohican Outdoor School has collected data indicating the benefits of implementing technology into our program. Consider the following research on teens and technology paired with academic gains recorded in schools piloting mobile learning through using the Go Know platform:

b) **Teens and Cell Phones (Pew Study, April 2010)**

- The typical American teen sends and receives 50 or more messages per day, or 1,500 per month. And there are a sizeable number who do much more than that:
    - 31% of teens send and receive more than 100 messages per day or more than 3,000 messages a month;
    - 15% of teens who are texters send more than 200 texts a day, or more than 6,000 texts a month.

- The report provides details about the things that teens do with their phones besides texting and talking.
    - 83% use their phones to take pictures;
    - 60% play music on their phones;
    - 46% play games on their phones;
    - 32% exchange videos on their phones;
    - 27% go online for general purposes on their phones;
    - 23% access social networking sites on their phones.

Additional data gleaned from the Media Literacy Clearinghouse Site includes the following:

- Over half of Americans aged 12 or older have profiles on Social Networking sites.

- 72% of middle school aged students spend more than three hours each day outside of school in front of a TV, mobile phone, or computer screen rather than doing homework or academic related activities.
- 71% of teens aged 12 and older own a cell phone
- 51% of teens check their social networking sites more than once a day; 22% check it more than 10 times per day.

c) The reality is that cell phones and technology are the norm among our children. Additionally, the educational system has not been able to keep pace with the rate of speed that children have embraced these mediums of communication. Merging technology with nature may provide one way of engaging our youth.

This data has prompted Mohican Outdoor School to explore a pilot program that utilizes a mobile learning platform delivered via the use of handheld cell phone computers and/or netbooks. Go Know is now working with Sprint to implement a mobile learning program throughout the nation. The results of using technology to deliver curriculum to school-aged children has proven impressive on testing results. The following shows over 30% gains in reading and math scores when utilizing mobile learning via cell phone delivery (June 2009 Data-Provided by Go Know, Inc.). One of these districts is located here in Ohio.

St. Mary's School, Columbus Ohio:

St Mary's OH, 4th Grade to 5th Grade	**Pencil-paper**	**With Cellphone Computer**
Reading	15%	**46%**
Math	42%	**71%**

Cimarron Elementary School Katy, Texas:

Texas TAKS Benchmarks	**Last Year 5th Graders**	**June 2009- 5th Graders (+ cellphone computers)**
Science	50%	**82%**
Math	40%	**69%**

It is hopeful that MOS will demonstrate similar results in our GT Mobile program.

Green Tech Mobile

ATTACHMENTS

Mohican School
IN THE OUT-OF-DOORS, INC
RESIDENT OUTDOOR ENVIRONMENTAL EDUCATION SINCE 1961

ATTACHMENT 1

OHIO EPA FUNDING AWARD PRESS RELEASE

FOR RELEASE: November 16, 2010
CONTACT: Dina Pierce, (614) 644-2160

Ohio EPA Awards $23,086 Environmental Education Grant to Mohican Outdoor School

Mohican Outdoor School students will continue their environmental education while learning "geocaching." A $23,086 Ohio Environmental Education grant will help equip the school with the tools to teach geocaching, a growing hobby worldwide. Eleven grants were awarded statewide for a total of $400,000.

Geocaching is a high-tech game in which players around the world use GPS devices to locate hidden outdoor containers called "geocaches." Players then share their hunting adventures online, according to a geocaching website.

Mohican Outdoor School's geocaching adventures will teach students from throughout the region how to use GPS units while focusing on activities designed to teach concepts of conservation and environmental education. Mobile learning applications using Go Know software delivered via hand-held devices will be piloted to record data and assess mastery of the concept. The school also will create a website called "Greenormous News" for students to share their work.

The Ohio Environmental Education Fund is administered by Ohio EPA. Grants up to $50,000 are funded from one-half of the civil penalties collected by the Agency for air and water pollution control violations. Eligible grant recipients include environmental groups, public and private schools, colleges and universities, trade or professional organizations, businesses and state and local governments. Approximately $1 million is given each year.

The next OEEF application deadline is on January 18, 2010. An electronic letter of intent to apply is due on January 11. For additional information, contact the Ohio Environmental Education Fund online or by phone at (614) 644-2873.

www.epa.ohio.gov

ATTACHMENT 2

Mohican School
IN THE OUT-OF-DOORS, INC
RESIDENT OUTDOOR ENVIRONMENTAL EDUCATION SINCE 1961

Mohican Outdoor School
Technology Plan July 1, 2010-June 30, 2013
Billed Entity Number 16055572

5370 Bunker Hill North Road
Butler, Ohio 44822

www.mohicanoutdoorschool.org
419-903-0799

1.1 SCHOOL DISTRICT AND COMMUNITY DEMOGRAPHICS

Mohican Outdoor School, Inc. is an outdoor environmental school organization located in rural Richland County near Butler, Ohio. Mohican School's program enriches all phases of the elementary and middle school curriculum, meeting content standards in all areas. The Mohican Outdoor School experience is interdisciplinary with an emphasis on hands-on, experience-centered learning. While serving many grade levels, fifth and sixth grade makes up most of the student body in the resident program. Programs are offered in day trip experiences, and resident experiences. The school operates from September through May each year. Over 200,000 students from over 90 school districts have participated since 1961, when the school was founded.

1.1.2 SCHOOL FACILITIES

During the decade of the 1990's, Mohican School expanded its program to include day-trips and outreach programs, and began searching for a location to call "home" and build permanent facilities to be owned by Mohican School. That "home" was found at the historic Hemlock Falls site near Butler, Ohio. The Hemlock Falls Outdoor Education Center was opened in 1997 and provided an opportunity for a more developed day-trip program. In October 1999, Mohican School opened the Environmental Learning Center (ELC) on 210 acres, a complex including a lodge, dorms, and classroom and office space.

1.2 Plan Process Overview and Stakeholders

1.2.1 Planning Process Overview

The technology committee at the Mohican Outdoor School consists of the Executive Director, Information Technology Consultant, Program Coordinator, Operations Coordinator and the Administrative Services Manager.

The technology committee will review goals quarterly and document progress based on proposed outcomes. The Technology committee will make mid course corrections as needed when new opportunities become available.

Planning Team Membership List

Name	Role/Organization
Mr. Ray Coleman	Executive Director
Ms. Susan James	Operations Coordinator
Mr. Cody Douglas	Technology Consultant
Mr. Steve James	Program Coordinator
Ms. Rhoda Taylor	Administrative Services Coordinator

Goals for MOS Technology Plan

1.3 TECHNOLOGY ACCESS AND EDUCATION REFORM

1.3.1 Improved Internet Access

Because of the rural location of the school, the only past means of Internet access has been via satellite hook up. This connection is very slow and provides limited uploading capacity due to Fair Access Policies (FAP). Recently, strong wireless 3G connection has been made available due to the erection of a new cellular tower. One of the primary goals of this plan is to secure stronger, faster and more reliable connection to the Internet.

1.3.2 Enhanced Student Learning

Student Achievement

Technology will be used to support student achievement of the Ohio State Education Standards. Computer-based, pre and post tests can evaluate students on their mastery of intended learning outcomes.

On–line Learning

Technology will support students in learning by providing access to resources outside of the school building. The internet opens the doors to virtual field trips, museums, web portals, distant countries, or points of historic significance. The amount of information available to students is expanded with research information from libraries, agencies, search engines and databases.
Access to these resources will enhance the real life connections made to nature at the Mohican Outdoor School and allow for year long programming offered via the internet.

Mobile Learning

MOS is pursuing the use of cell phones and electronic notebooks (text, phone and internet functions blocked or monitored) to develop and pilot a mobile learning program. Computer lessons designed to teach environmental education across the curriculum will be loaded to the hand held tools to be used in the field, thus combining experiential learning with academic theory in the out doors. Digital cameras, animated drafting software, GPS technology, electronic journaling and a host of other resources will now be available outside of the boundary of the school walls.

Expanding Learning Opportunities

Distance learning capacity and video broadcasts can provide specialized instruction to expand the learning opportunities of students that would otherwise not be accessible to all students during the school day. These resources will allow

MOS to take nature and the environment inside via the internet regardless of where the school is located.

1.3.3 Improved Teaching

Equal Opportunity

Teachers will use technology to ensure that all students have equal opportunities to learn. Presently there is only limited internet connection at the school (9 machines). The schools computer lab is not connected to the internet and is not networked. As result these machines are used very little. The goal is that there will be at least one computer with internet access available in every classroom along with a networked, internet connected computer lab available for student use. The proposed ratio of students for every computer is three to one. Technology supported learning activities will be used to expand possible instructional responses to diverse learning abilities.

Thematic Teaching

Portfolios can be developed and maintained so that teachers can work cooperatively. MOS will use an intranet system utilizing web enterprise 2.0 tools to improve communication and consistency of teaching among the staff.

Sharing

Teachers will use technology to share ideas and methods that have been successful with other teachers. All teachers will be provided their own e-mail accounts. They can use electronic mail to communicate ideas and resolve problem areas. Through e-mail, and the use of web based enterprise 2.0 tools teachers will also have the ability to communicate curriculum ideas with teachers from other schools.

Staff Development

Technology will be used to provide enhanced staff development through the use of on-line courseware and other strategies. Staff development will be focused around technology competencies that link performance measures to the classroom application.

4 Staff In-service Days (one each quarter) have been dedicated to teaching teachers how to utilize technology.

1.3.4 Decision Support and Organizational Efficiency

Student Progress

Technology will provide students, teachers, administrators and parents with timely information on student progress. Student-data management programs will

be used to collect and manage data to provide performance feedback to students and parents.

Managed Learning

Learning management software and systems support teachers in supplementing standard-based curriculum and linkages to a variety of instructional approaches and resources. These programs will help build classroom instruction specific to the current level of every student.

Communication with Key Stakeholders

Technology will be used to promote communication between and among Mohican Outdoor School's key stakeholders. Electronic mail will be used to facilitate communications between administrators and the home school district, administrators and teachers, and between teachers and parents

1.3.5 Other Benefits

Community Development

Technology will support community development by implementing strategies that encourage and facilitate increased interaction with parents, organizations, business and industry. These interactions will make community resources more accessible to schools

The school will develop alliances with a number of entities:

- Local business
- Public library services
- Education Service providers
- Museums and historical societies
- Higher education campuses
- Low Income Housing Centers
- Local Public Schools
- Human Service Providers

The partnerships will provide opportunities to bring relevance to learning by experiencing real-world environments and enabling them to access varied information resources.

Support for Lifelong Learning

It has become increasingly apparent that continuous lifelong learning is a necessity. The economy requires that our businesses work harder and smarter to compete successfully for a fair market share of goods and services. Businesses

have been forced to restructure in order to survive. To re-enter the work force, many will need to learn new skills and make changes in their career plans.

This technology plan will provide a format to students, teachers, and administrators to learn, demonstrate and refine technology skills. The specific assets include access, evaluation, analysis and manipulation of information from a variety of sources to draw conclusions and create new knowledge for their learning. The information access and communications structures created in school, as a result of the information technology planning, can ensure the learner has the necessary resources for life-long learning.

Partnerships

Technology will be used to create and enhance linkages and partnerships by developing new and more efficient means of education and student achievement.

Section 2 – Build Communications

2.1 Mission and Vision Statements

2.1.1 Technology Mission Statement

Our mission is to provide quality environmental education aligned with the standards for learning by integrating technology resources with outdoor experiential learning in a supportive environment that promotes high academic achievement.

2.1.2 Technology Vision Statement

Mohican Outdoor School views technology as an effective and necessary tool, capable of enhancing the communication ability and productivity of our students and staff. Technological proficiency will enable MOS students and staff to maximize their access to information, enhance problem solving, and develop effective communications in the Information Age. Our vision for technology includes:

- The staff and students exhibiting the skills needed to access, use, and process information by using electronic resources.
- The staff and students use of efficient communications for interactions in the age of information science.
- The staff and students demonstrating responsible use of technology.
- Teachers using technology to enhance student learning.
- Administrators using technology to improve management functions to support decision making and increase organizational efficiency.
- Students using technology as a means to meet state-approved academic standards
- Staff and students using technology to engage in real world learning that takes place outside of the traditional classroom.

2.2 ONGOING COMMUNITY COMMUNICATION

2.2.1 Ongoing Community Communications

Mohican Outdoor School presently draws students from forty school districts in 15 counties in Ohio. One of the challenges Mohican Outdoor School needs to address is how to communicate effectively with students, parents, and stakeholders when the geographic area that it services is so large. The school also needs to establish ties with the local media and attempt to garner more exposure for MOS programs and activities.

One idea in early stages of development is capturing web based broadcasts using a platform such as Camtasia; a presentation of Mohican Outdoor School can be stored on a website and broadcast to board members and administrators from the sending school districts.

Community Communications Plan

Message: Mohican Outdoor School needs to communicate its curriculum and program activities to a large geographical.
Audience: Board Members and administrators from the sending school districts
Methods: Creating and updating a web based broadcast
Resources: Executive Director to develop presentation
Timeline: Ongoing
Evaluation: Logging of inquiries and e-mail comments. Interviews with school Administrators.
Message: Mohican Outdoor School needs to be able to communicate student progress and the benefits of outdoor education.
Audience: Students, parents, educators.
Methods: Telephone, email communication and website resources
Resources: Telephone, email systems, website, intranet
Timeline: Ongoing
Evaluation: Feedback from parents, students, web visitors, and educators

2.3 PARTNERSHIPS AND COMMUNITY LINKAGES

2.3.1 Current Partnerships and Community Linkages

Mohican Outdoor School partners will several community, school and business partners. Following is a list of some key partnerships:

- Community Action for Collaborative Youth- Leadership skill development with high risk populations
- Richland County Children services- Summer academic programs for students in the foster care system
- Boy Scout and Girl Scout programming
- Schools- Mohican Outdoor School partners with more than forty private and public schools annually to provide academic based outdoor learning.

- Connections Mentoring Group- day programs for high risk urban students
- Sprint- partnering to offer pilot mobile learning program in the outdoor setting
- Ohio EPA Environmental Education division- Offer science based environmental education curricula such as Project Wild, Project Wet, and Project Learning Tree.

2.3.2 Potential Partnerships and Community Linkages

- MOS hosted a pilot with Students of the Hong Kong Institute of Vocational Education. Plans are to expand this partnership and offer an International Environmental Technology program to be hosted at MOS.
- MOS is working closely with neighboring outdoor facilities such as Camp NuHop and Otyakwa to expand opportunities of programming to include team building and leadership development.
- MOS is exploring partnerships with various foundations to help sustain programming and development new resources to help students make realistic connections to what is learned in the classroom.

Section 3 – Assess Current Status

3.1 Success of Previous Plan (No Previous Plan)

3.1.1 Technology Goal attainment overview

This is the first submission of a technology plan by the Mohican Outdoor School.

3.1.3 Success Factors Supporting the Attainment of Technology Goals

N/A no previous plan

3.2 CURRICULUM AND STUDENT ACHIEVEMENT

3.2.1 Review of Assessment Data

National data pertaining to outdoor education demonstrates increased math and science scores and increased recruitment of students pursuing careers in math or science. Mohican Outdoor School is in need of implementing a research based assessment tool to better collect outcome data pertaining to our local student populations.

3.2.2 Curriculum and Student Achievement Challenges

Students attending the outdoor school overall show an inability to connect classroom theories and academic content to real life applications found in nature. Better means of accurately assessing these weaknesses are needed and will be possible through increased technology based assessments.

3.3 STUDENT AND STAFF TECHNOLOGY SKILLS, KNOWLEDGE AND USAGE

3.3.1 Student Technology Access and Attitudes

The majority of Mohican Outdoor School students have greater access to technology resources at school than at home. Approximately 70% of Mohican Outdoor School students have access to computers at home.

All Mohican Outdoor School students have access to computers in their home schools, either in the classroom or the computer laboratory. However, limited access is available onsite at Mohican Outdoor School due to its rural location and historical development. In past years, Mohican Outdoor School resisted embracing technology as the school's primary purpose was to immerse kids in nature and to make realistic connections not virtual ones. As times have changed, MOS has come to realize that technology is an integral part of life and that MOS must find ways to mesh virtual learning with tangent real life learning situations. Teaching 21st Century learning skills to our young people is critical whether in an outdoor, experiential setting or in the traditional classroom.

Mohican Outdoor School requires its students and Parents or Guardians, to sign an Internet Student Usage agreement to use the Internet in school. Students agree to abide by certain guidelines when using the Internet.

3.3.2 Student Technology Skills

Students vary in regards to demonstrating knowledge of technology skills prior to receiving formal instruction. Many students with home computers are becoming more skilled, knowledgeable and comfortable with computers than those students who do not have home computers.

3.3.3 Student Technology Usage

Students using MOS computers are expected to use the computers solely for research, class assignments, homework and to improve their technology skills.

3.3.4 Staff Technology Access and Attitudes

All staff members have access to the school network, the Internet, and electronic mail. MOS does not provide its staff with internet access from home and there are no plans to provide home Internet services in the future. Neither does it provide its staff with computers that can be used at home. While staff attitudes toward technology have been less engaging than most traditional school settings, staff is coming to understand that computers serve a vital role and that they can enhance the curriculum they currently provide. Until 3 years ago, MOS had no high speed internet

connections and very little work was completed on the computer. Funds secured through this program will provide for enhanced internet connection, improved computer networking and access to a host of technology based resources. Staff development will be critical in the success of this plan.

3.3.5 Staff Technology Skills

There is a wide variation of computer skills among the staff of MOS. Most teachers feel comfortable with Internet and word processing activities but spreadsheet; database management and presentation software skills are more limited. A basic troubleshooting in-service would be beneficial in helping many teachers correct some problems they experience while using their computers.

3.3.6 Staff Technology Usage

Most MOS staff uses the Internet for research and electronic mail for communications both at school and at home. A few of the staff members use computers to prepare instructional materials. Use of technology to present course content is limited at this time because of availability of equipment.

What seems to motivate the staff the most about technology is its ability to bring so much additional information quickly into the classroom. From the networked computer in their classrooms, a teacher is able to quickly tap into the unlimited resources of the Internet from the classroom and computer lab.

3.4 TECHNOLOGY INVENTORY

3.4.1 Quality of Technology Resources

A current inventory list is attached to this document. While the functionality level of some of these computers is limited, upgrades to the machines and the network have been proposed to help improve the efficiency of the equipment.

3.4.2 Quantity of Technology Resources

The quantity of computers available MOS is marginally acceptable. All classroom teachers have access to one networked computer. There is also one computer laboratory with 7 computers which are presently not networked or connected to the internet.

Several teachers have indicated that they would like to incorporate computers into their lessons.

MOS currently uses three networked printers and a number of stand alone ink jet printers.
Another area of computer equipment that needs improvement is digital projection units (LCD projector). Currently, the teachers have little to no access to a projection unit they can use for presenting course content.

3.4.3 Distribution of Technology Resources

Approximately 60% of the instructional computers at MOS are located in the computer lab. The remaining computers are distributed among various area of the main building. At this time the student dormitories, Hemlock Falls Center and Red Apple building have not internet connection or available computers.

All computers connected to the internet in the main building are connected via satellite and operate very slowly. The machines are hard wired using Category 5 cabling.

The school operates a small network which at present only includes staff and administrative machines. The computer lab at present is not connected to the network or internet.

This network is served by a Dell Power Edge 6650 Server runs two dual 2.7GHz Xeon Processors, 4GB ECC RAM, 5 36GB SCSI hard drives in a RAID 5. The server is badly in need of upgrade before expanding the networking capacity.

3.4.4 Summary Charts for Narratives 3.4.1, 3.4.2, and 3.4.3

Student to Computer Ratio and Computer Distribution Matrix

The Matrix reads top to bottom for each level and shows the student to computer ratio (number of students to number of computers) for each level as well as the distribution of each category of computers across the level. For each level the quantity and percent are divided into instructional and administrative.

# of Students	100
# of Schools	1
Total # of Computer Systems	20
Total # of Instructional Systems	7
Total # of	

Administrative Systems	8
Ratio of Computers to Students	13:1

3.5.1 Equipment Layout and Distribution, and Furniture Used

MOS currently has one instructional technology classroom (computer laboratory) configured using an around the perimeter station model. This area is used primarily for computer word processing and power point presentation development. At this time there is no network or internet connection to the lab.

3.5.2 Facility Power, HVAC, Lighting, and Security

MOS lacks sufficient power capabilities to handle expansion of the school network. Surge suppression is placed on outlets that provide power to switches; however, it is lacking in many areas that power student and teacher workstations. One are of concern involves power to the switch. Occasionally a disruption in power may occur, which results in loss of network access. While some battery backups have been added, not all equipment is equipped with uninterrupted power supplies (ups) units.

MOS has adequate lighting in all classrooms and offices.

3.5.3 Facility Problem Areas

Generally, the MOS building is a concrete structure making hard cable wiring very difficult. The lack of air conditioning or good airflow has created some problems with higher than desirable temperatures in the server room. The server room area is in a very dusty and dirty area of the building and needs relocated to cleaner dedicated room with adequate ventilation. No traditional broadband access options are available thus satellite is being used. Wireless connection is now available in the area through 3g connection.

3.6 DISTRICT INFRASTRUCTURE PLAN AND DESIGN

3.6.1 Building Level Networking

As described in section 3.4.3, the network capacity at MOS is in need of updating as the current server is not sufficient to address the growing needs. Hard wire and hubs are in place but the organization desperately needs a new server.